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**Lane Reallocations During COVID: A Comparison of Interventions and Decision-Making
Process**

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Table of Contents

- Introduction and Background – Page 1
- Literature Review – Page 2
- Methods – Page 5
- Case Studies
 - Chapel Hill, NC – Page 7
 - Brookline, Massachusetts – Page 13
 - Washington, DC – Page 16
 - Burlington, Vermont – Page 19
- Analysis and Discussion – Page 22
- Conclusion – Page 24
- References – Page 25

Introduction

This paper aims to look at the political factors around lane reallocations on commercial and mixed-use streets in the United States during the COVID pandemic. Using multiple case studies, this project will examine the political factors around the decision-making process, implementation, and discussions about the future of these interventions. Case study analysis will be conducted by examining the messaging in public meetings and associated materials, and supplemented by the author's experience as staff at one of the case studies. This paper is targeted at people interested in the impacts of the COVID pandemic on support for active travel, and aims to set up future research on how these interventions fare after the pandemic.

Background

In January, the United States reported its first case of the disease COVID, caused by the novel coronavirus. Over the next two months, this virus would spread rapidly and bring severe danger to public health, causing public health officials and institutions to quickly move to change behaviors.

While movement decreased during the spring months during state-level and municipal stay-at-home orders (Bliss, 2020), the pandemic brought significant interest in active transport – walking, biking, and other human-powered means of transportation. The fitness app Strava recorded a 28% increase in outdoor activity over the expected number of workouts for the year, and triple the number of outdoor walks over 2019 figures (Strava, 2020). Bicycle sales boomed, with a 121% increase in March 2020 sales over March 2019 sales (Davies, 2020).

Similarly, the pandemic had a strong effect on outdoor retail and dining, as businesses had to quickly react to restrictions on indoor dining and capacity limits. The reduced transmission in outdoor settings led many restaurants to expand their seating and to bring customers back by ensuring that the dining experience fell below the risk threshold of patrons. A September survey of Americans found that 58% saw dining indoors as an unsafe activity, while only 36% saw dining outdoors as unsafe (Erchick, 2021).

Given the combined increase in active transportation and outdoor dining, municipalities had to balance different interests in street space and the curb. These decisions often came quickly, motivated by the urgency of responding to the immediate problems and changes created by COVID. With each jurisdiction responding to its local context in the decision-making process, different community expectations and takeaways have emerged, and may hold lessons for future advocacy and analysis of how cities allocate street space. This paper will make comparisons across communities that implemented lane reallocations to see how the interventions were framed, how the decision-making process occurred, and how they compare and contrast to each other.

As the end of the COVID pandemic appears to be closer than the start of the pandemic, municipalities will need to assess what the future of these interventions looks like, and what the community expects moving into the future. This paper aims to examine the potential future of

these active transportation interventions after the COVID pandemic by looking at the early discussions around these lane reallocations.

This paper will focus on lane reallocations on busier commercial corridors instead of the other approaches that municipalities embraced during the pandemic. These lane reallocations present some of the closest parallels to the types of active transportation infrastructure regularly implemented in the United States, making them an ideal candidate to monitor for the future. Keeping a commercial and/or mixed-use context will also help with comparing the interventions and will give more insights on how the experience of COVID will impact street allocation decisions on these types of corridors moving forward.

Literature Review

For this literature review, we will primarily draw from the existing scholarship around COVID's impacts on street space, prior literature on lane reallocations and Complete Streets, and how active transportation mode share interacts with other modes. These fields have well-established research regarding their costs and benefits, and offer a variety of case studies to use. This literature is also relevant in thinking about how these interventions may persist into the future as permanent active transportation infrastructure. Given the recency of COVID, this review will also use some grey literature to establish the events occurring during the pandemic.

Impact of COVID on Street Space

It is impossible to discuss this project outside of the context of the COVID pandemic, which has had far-reaching effects on society. In trying to assess these effects on travel patterns, this project will need to use recent literature and data sources to properly assess the surrounding context. Existing research has found large declines in travel after stay-at-home orders were issued, but larger recoveries for walking and driving as modes of transportation (Bliss, 2020).

Existing research around community interventions showed a large range of cities taking actions to support active travel and reallocate road space for purposes beyond vehicular traffic.

In response to the increased interest, many municipalities reacted with specific interventions around active transportation that deviated from the status quo. The Pedestrian and Bicycle Information Center recorded close to 1400 actions taken across the globe in the active transportation field to respond to the virus in its Shifting Streets database, with 550 of those actions including changes to roads and car travel (Combs, 2020).

Of the actions documented in the Shifting Streets database, 313 consist of curb space reallocation, 213 were full street closures, and 126 are partial street closures. Of the 313 curb space reallocation projects, 242 involve increased space for pedestrian and cyclists, and 46 of those occurred in the United States. Of the remaining curb reallocation projects, most include increased spaces for takeout and delivery, with outdoor dining occupying both curb space and closed streets (Combs, 2020). Given the active transportation focus of the sponsoring

organization, it may be reasonable to assume that this is an undercount compared to bike/ped interventions.

Evaluation of these interventions is still emerging, but initial results show promise in affecting travel behaviors. A study of cycling traffic in European cities that implemented temporary bicycle infrastructure during the COVID pandemic found an increase in cycling between 11% and 48% (Kraus & Koch, 2021).

However, critiques of these actions have emerged, especially around the lack of public engagement. The lack of engagement and quick nature of the interventions led to equity concerns, fears of increased mistrust between citizens and governments, and a failure to get at deeper root issues (Thomas, 2020). A study of 60 interventions found that only 21 had some form of engagement, and that engagement could be limited to an email newsletter (Kuiper, 2020).

Lane Reallocations and Economic Impacts

Given the commercial nature of the corridors in this paper, it is key to examine the economic impacts of lane reallocations. Much of the literature around lane reallocations in commercial contexts comes in the form of the Complete Streets literature, as cities aim to make commercial corridors an attractive place that draws in potential shoppers.

One of the concerns in the implementation phase of the project was around the speed of traffic slowing down and what effect increased congestion may have on businesses. However, previous analyses of Complete Streets projects by backers show an increase in economic development and expenditures, including retail business receipts (McCann, 2013). While singling out the effects of a Complete Streets intervention may be impossible to fully do, previous analyses offer a framework for how to assess projects (Moore, 2013). Multi-modal users have been shown to spend the same amount as those who drive to their destination when it comes to retail as well, which suggests that the economic impacts of reduced car traffic could be made up by increased bike and pedestrian traffic (Clifton, 2012). Interventions around new bike and pedestrian facilities have also been found to support business activity as well. Research around interventions in four cities found either positive or non-significant effects in a quasi-experimental design (Liu & Shi, 2020).

However, the positive impacts around Complete Streets interventions is not unanimous. Critiques of the field cite the lack of clear measurements of success on the stated benefits of Complete Streets interventions, including retail sales, with a lack of data to back up claims (Jordan, 2020)

The previous analyses of Complete Streets projects offer some evidence to consider, but also offer plenty of caution on making overly simplistic correlations. This will be useful in trying to address concerns about economic impacts of these lane reallocations, and will be helpful in contextualizing changes.

Politics of Active Transportation in the United States

Active transportation and Complete Streets interventions must navigate the political environment of each municipality and the general climate of transportation politics. A study found that in 2014, around a quarter of municipalities had Complete Streets policies in place, with more adoption in larger communities and less adoption in the South. Municipalities that have adopted a Complete Streets approach also vary in the content and strength of their policies, with non-binding resolutions making up 43% of Complete Streets policies (Carlson, 2017). Municipal policies also vary in how they address tradeoffs or priorities, leaving a lot of the decisions to an intervention-by-intervention approach. Support for Complete Streets is also growing at the state level, with 30 policies adopted by states by 2014 and policies becoming more comprehensive over time. The diffusion of policies has mostly occurred since 2000, and states with adopted policies have constructed more protected cycling facilities than states without an explicit Complete Streets approach (Wie, 2016).

Previous literature has approached bicycle and pedestrian policy with a multiple streams approach, highlighting the policy entrepreneurs that bring together problems, policy solutions, and politics to get to implementation within a limited window of time. Applying this model to active transport, successful implementation can be seen through the lens of policies finding the right backer at the right time, with the support of increased framing around issues like carbon emissions and public health (Weber, 2014). Case studies on Complete Streets implementation have also turned to specific policymakers or advocates to help explain how solutions come into play, and the presence of advocacy work has been cited in creating strong active transport environments in the U.S. (Buehler & Handy, 2008)

Active Transport and Transit Elasticities

In trying to assess the effects of COVID on travel patterns and the potential future effects, this project will need to use recent literature and data sources to properly assess how changes in one mode affect other modes.

The hardest hit mode of travel during the pandemic has been public transit. While little transmission has been traced back to transit vehicles, transit ridership has plummeted across the United States. For example, ridership on Boston's MBTA system hit a low of 15% of normal levels in April 2020 (DeCosta-Kilpa, 2021). National numbers are harder to track, but using data from a transit smartphone application, researchers estimated that demand declined by up to 70% nationally, with particularly strong declines in peak hour ridership (Liu, 2020). However, not all populations had the same ability to switch from transit. Recent studies have found that in Chicago, ridership declined less in areas with more low-income people, Black people, and people with a low educational attainment (Hu & Chen, 2021).

Changes in public transit and active transportation have been shown to have more effects on each other than on driving, especially in the literature around fare-free transit systems. Previous research found that in after a fare-free implementation in Templin, Germany, the majority of new ridership came from youths, and research found little mode shift away from cars during the wave of fare-free pilots in the U.S. during the 1980s. Instead, a majority of the increase in ridership

appears to come from a combination of existing public transit users, induced demand for new trips, and those who previously walked or biked (Storchmann, 2003).

Compared to transit, recent research found declines in travel after stay-at-home orders were issued, but larger recoveries for walking and driving as modes of transportation (Bliss, 2020). It is clear that understanding the impact of decreased transit ridership will be key to understanding how active transportation habits may change after the pandemic. Already, research around the increase in bicycle infrastructure in Europe during the pandemic opted to control for changes in the provision of public transport (Kraus & Koch, 2021). Further research will be beneficial to fully understand how the reduction in ridership impacted active transportation, but this paper will note transit usage as a community metric to monitor.

This review of the literature demonstrates that there is existing knowledge about the benefits of changes to support active mobility in normal times, the different ways that people adjust to changes in other modes, and an emerging understanding of the impacts of COVID-related interventions. However, the emerging literature still has gaps, especially in the American context and the pedestrian context. The strongest early analyses have focused on European bike-related interventions, but we lack counts for lane reallocations related to pedestrians. The emerging literature has also focused on closely documenting the ‘what’ and ‘where’ of COVID-related interventions, but the ‘how’ of these interventions is still emerging. This paper will attempt to apply the lessons learned from previous political discussions over active transportation and lane reallocations with COVID-related interventions to see how cities responded and are looking towards the future.

Methods

To analyze the political support for COVID-related interventions, this paper will use public meeting records, news releases, and social media to establish the decision-making timeline, assess the reasons for support and opposition to lane reallocations, and gauge interest in continuing the intervention into the future.

Analysis will be conducted by classifying comments into categories of reasoning for supporting or opposing the lane reallocation. The analysis will include a summary of how each category influenced the discussion, and further discussion within the paper to provide context on the support or opposition within the community context. These categories have been adapted from the literature review, particularly the Shifting Streets database, around lane reallocations and the impact of COVID on active travel. These categories will be:

- Recreation
- Essential Travel
- Economic Activity
- Concerns over Increased COVID Spread

Assessing these categories will help to understand what motivated communities to implement a lane reallocation and will set the stage for how these factors impact the durability of these interventions after COVID.

Case study communities were selected based on the intervention they pursued. All four case studies implemented lane or curb reallocations on commercial corridors that specifically dedicated space to pedestrians and/or cyclists. Case studies will be structured around the decision-making and implementation timeline, the framing of the intervention during the decision-making process, and the public discussions that have happened since implementation.

The case study communities are:

- Chapel Hill, North Carolina: selected due to the central location of the lane reallocation and the author's familiarity with the lane reallocation
- Brookline, Massachusetts: selected due to the early adoption of a lane reallocation strategy and the extensiveness of the lane reallocations
- Washington, D.C.: selected due to the size of the city and the pedestrian focus of the lane reallocation.
- Burlington, Vermont: selected due to the very early adoption of the lane reallocation and the decision to end the lane reallocation before the end of COVID.

To properly establish the context in each community, this paper will include American Community Survey data on their size, population density, commute mode share, and average median income. The demographic factors will help identify the similarities and differences in setting, while the existing mode share will help to establish the existing role of active transportation and the existing attitudes around travel outside of a personal motor vehicle.

Community	Population	Population Density	Median Income	Transit Mode Share	Walk Mode Share	Bike Mode Share
Chapel Hill	57,233	2,833 persons per sq. mi.	\$73,614	10.7%	11.5%	1.7%
Brookline	59,180	8,754 people per sq. mi.	\$117,326	30.8%	17.3%	6%
Washington D.C.	692,683	11,330 people per sq. mi.	\$86,420	35.7%	13.4%	4.5%

Burlington	42,545	4,128 people per sq. mi.	\$51,394	5.6%	22.2%	5.5%
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Table 1: Demographics of Case Study Communities (American Community Survey, 2020)

For the Chapel Hill case study, the analysis of public discussions will be supplemented by the author’s knowledge of the process as a Town of Chapel Hill employee involved in conversations around the Franklin Street walkway. This information will help to show how staff in the community approached the intervention, balanced support and opposition after implementation, and assessed success. Having this context is beneficial to understanding the Chapel Hill case study and understanding how the community is approaching the future of the lane reallocation.

Chapel Hill: Franklin Street Walkway

Background

The Town of Chapel Hill opted to reallocate lanes on Franklin Street, the main commercial corridor in the town’s downtown, to free up space for outdoor dining and create more space for social distancing.

Chapel Hill has a council-manager form of municipal government, with a ‘weak mayor’ leading the legislative meetings of the Town Council and a town manager in charge of the day-to-day operations of the executive branch (*Town Manager*, 2020).

Lane Reallocation Overview

While the full extent of Franklin Street stretches for 3.5 miles, the downtown commercial portion – the focus of this case study – makes up the western 0.8 miles. The road is maintained by the North Carolina Department of Transportation (NCDOT), which has final say over any changes to the road.

With NCDOT approval, Chapel Hill implemented a “lane reallocation” on the downtown commercial stretch of Franklin Street. The reallocation saw pedestrians use the space normally reserved for parking and parked cars using the normal outer travel lane. The proposal, mapped in Figure 1 below, extends for the stretch of road from Robertson Lane to Graham Street, with modifications for transit, loading zones, and intersections.

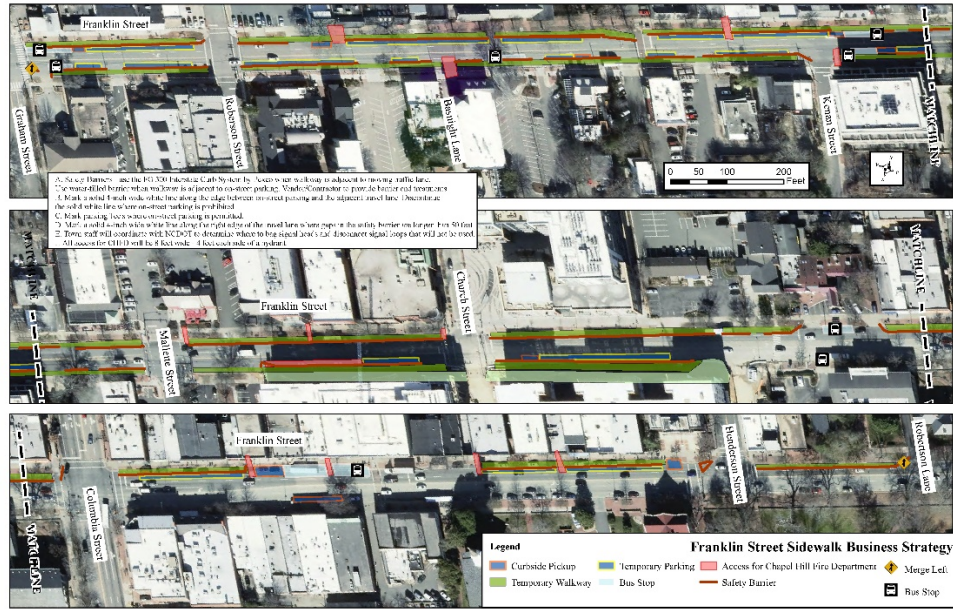


Figure 1: Maps of Franklin Street Walkway layout, (Town of Chapel Hill, 2020)

Public Decision-Making and Implementation Timeline

Prior to the pandemic, the Town of Chapel Hill was in discussions around existing plans to restripe the western portion of Franklin Street from its current four-lane configuration to a three-lane design with bike lanes and a center turn lane, in coordination with NCDOT plans to rehabilitate the pavement (*W. FRANKLIN ST. LANE REALLOCATION*, 2020). The Town had conducted the necessary traffic studies required by NCDOT to ensure that the changes would not cause an unacceptable negative effect on traffic, and the transportation planning division was in the process of collecting feedback and support for the change, with a vote scheduled for Town Council on March 25th. At the March 6th, 2020 Council Committee on Economic Sustainability meeting, the issue was discussed in passing, with the Chapel Hill Downtown Partnership offering its support in passing and an informational item on the proposed lane reallocation included in the agenda, but no further discussion by council members. If approved, the resurfacing was set to occur in the summer of 2020 (Chapel Hill Downtown Partnership, 2020). After the onset of COVID and the state of emergency within North Carolina, the restriping plans did not make their way onto the Council agenda, and the Town Manager made the decision to pursue restriping on Franklin Street, as noted in an email to the Council (Jones, 2020). On May 4th, the Town Manager notified the Town Council that the NCDOT would delay the planned resurfacing and restriping of Franklin Street to summer 2021.

On May 17th, local resident Mary Swann Parry created the “Feet on Franklin” petition on Change.org on May 17, 2020, and quickly garnered support from the public. The petition specifically called for the Town to remove a travel lane to “capitalize on the climate change benefits of fewer transportation emissions (already happening during the shutdown) by opening up more opportunities for human-powered transportation.” Within three days, the petition had received over 550 responses (Selley, 2020).

On June 3, Town Council received a presentation on a proposal to temporarily close a travel lane in each direction on Franklin Street. The presentation came from the town's economic development staff, who took the lead on the project. Staff noted that the ordinance was driven by public support and the Chapel Hill Downtown Partnership. In the presentation, staff noted that the lane closure was not intended to create a gathering space, but to "create more space for people to bike, walk, run, shop, and dine." The walkway was paired with language to permit temporary signage, use of private parking for dining, and a requirement for businesses to maintain social distancing with outdoor dining. Council discussed the item for 55 minutes, with modifications made to the language to give the Town Manager the authority to make changes once approval was negotiated with NCDOT, and an extension of the state of emergency to the end of August, as the ordinance referenced the state of emergency. The ordinance passed in a unanimous vote (*June 3rd 2020 Town Council Meeting, 2020*).

On July 29, the Town gained final approval from NCDOT and began work to put the walkway in place, with full implementation by the end of July 31. The walkway was not removed from the street at any point, and the issue did not formally come before the Town Council again.

Staff Decision-Making and Implementation Timeline

As an employee of the Town of Chapel Hill who was involved in planning around the walkway, this paper will also offer an internal timeline on staff actions and involvement.

Prior to May, the conversation around Franklin Street mainly focused on a permanent restriping of West Franklin for bicycle lanes. When activity slowed and closures occurred because of COVID, staff saw an opportunity to implement the restriping in a low-traffic period until NCDOT delayed the resurfacing.

In May, the idea of closing lanes emerged from the public, and the town's economic development staff quickly adopted it and took the opportunity to implement increased outdoor dining space, an existing demand from downtown businesses that was difficult to meet with the existing sidewalk. The solution was also backed by the prior work on the restriping plans, as the Town already had conducted studies and had data to suggest that West Franklin would still function acceptably with only one travel lane in each direction. The Town was able to use this information to gain NCDOT's support for lane closures.

After Council adoption, there was a two-month delay in implementation which was mainly the result of ordering materials and gaining NCDOT approval. While Town staff had garnered initial approval from NCDOT prior to the June 3rd Council meeting, detailed designs had to be provided and approved by the state before the lanes could be closed. In the final review process, NCDOT required that pedestrians in the street be separated from moving traffic by either parked cars and flexible curb material, or water-filled barriers. Since Chapel Hill lacked the sufficient number of water-filled barriers, the Town had to order additional ones at a significant cost, and wait for their arrival. These factors combined to bring a significant delay to implementation. Once materials arrived, the walkway was promptly installed by Public Works.

Staff Assessments of Implementation

For pedestrian and cyclist traffic, Town staff collected manual counts prior to installation in July, and after implementation in September. Counts were conducted at several different locations along Franklin Street for the hours of 8 AM to 9 AM, 12 PM to 1 PM, and 4 PM to 5 PM. These counts were collected to compare to existing peak hours observed in counts conducted by the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) from 2011 to 2017 (DCHC, 2017).

The counts, displayed in Figures 2 and 3, show pedestrian activity for the two months recorded. In general, counts show that the total number of pedestrians dipped slightly on the West Franklin portion of the street from July to September, and increased slightly on the East Franklin side of the street.



Figure 2: A picture of the Franklin Street walkway on West Franklin Street (Author photo)

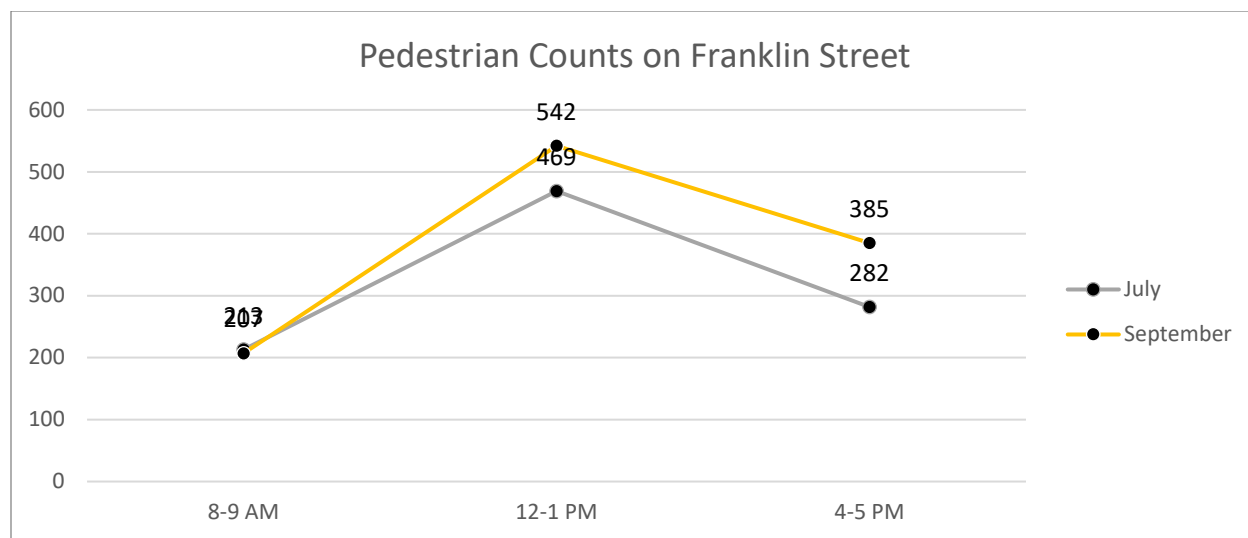


Figure 3: Total number of pedestrians counted on Franklin Street

The observations also found that in all locations, at least 88% of pedestrians were using the normal sidewalk space, and not the in-street walkway.

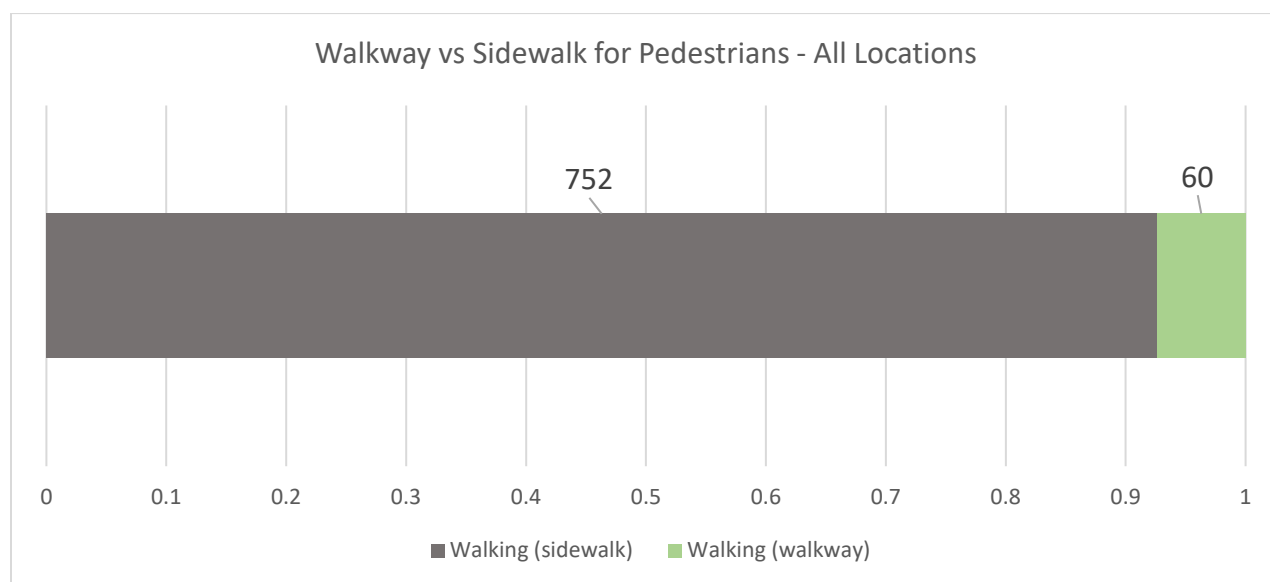


Figure 4: Pedestrians observed on the sidewalk vs pedestrians observed in the walkway

Compared to pre-COVID counts, pedestrian activity was clearly down. Using the most like-to-like comparison – counts collected at the intersection of Franklin and Kenan in October 2017 and in front of 411 West in 2020 – pedestrian traffic dropped 78% in July 2020 and 75% in September 2020. An important caveat to these numbers is that UNC-Chapel Hill was not in session during the summer of 2020 and was in session during the October 2017 counts, heavily increasing activity in the downtown Chapel Hill area.

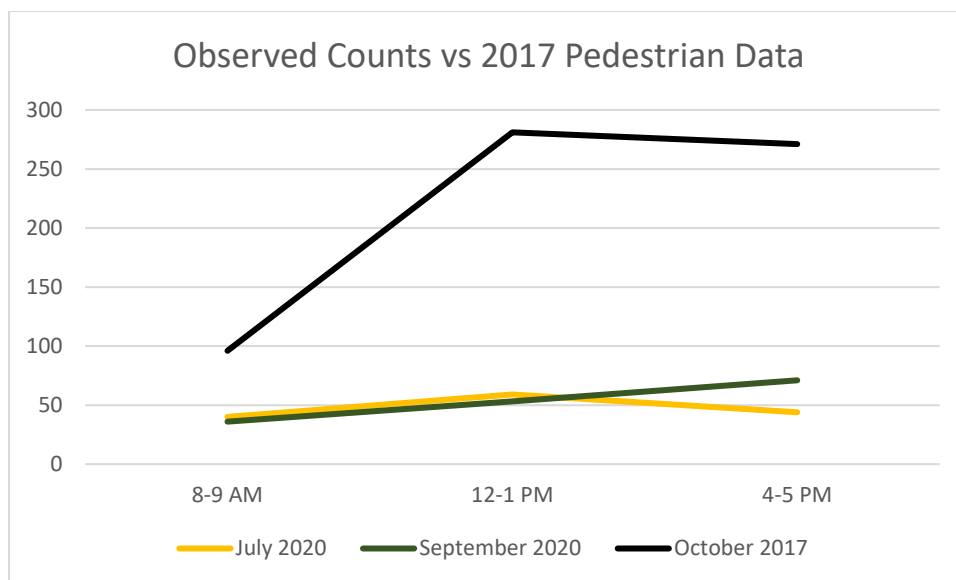


Figure 5: Observed pedestrian counts vs October 2017 data

The Chapel Hill Economic Development team conducted a September survey that asked business owners and operators to assess the impact of the walkway. With support for businesses being the primary goal, the reception from businesses is a key factor to consider. The downtown business survey was distributed to a range of Franklin Street businesses, and respondents replied with their business, their ratings on a 1 to 5 scale – with 1 being strongly disagree and 5 being strongly agree – and comments on the walkway.

Overall, the strongest support came for keeping the walkway in place through the winter, with an adjustment for right turns at the intersection of Franklin and Columbia. The option received an average score of 3.6 out of 5, with an unaltered version of the walkway following closely at 3.45 out of 5. Removing the expanded sidewalk was the lowest scored option, at 2.16 out of 5.

Businesses that favored the walkway were more likely to be on the west end of the street, where the walkway was implemented on both sides, while more skeptical business respondents tended to be on more evenly split between East Franklin and West Franklin.

In the written responses, businesses varied in their feedback, with common themes emerging around the need for more signage, the uneven pavement being an impediment, and concerns about a lack of impact.

The generally favorable survey results led the Town to keep the walkway in place and make space for right turns at Columbia and Franklin. The feedback on the walkway also reached the Chapel Hill Downtown Partnership, who expressed their support for keeping the walkway in place through the summer, and asked the Town to work with NCDOT to delayed the planned resurfacing of Franklin Street and to keep the walkway in place.

Framing of the Intervention

The Franklin Street walkway had a strong framing around active transportation, with business using this framing to garner support. The initial public petition specifically calls out “human-powered transportation,” and the petition’s creator noted before Town Council that the impetus for suggesting a lane closure was the increased number of people walking during the pandemic (*June 3rd 2020 Town Council Meeting*, 2020). While increased sidewalk dining was something that elected officials and speakers praised, the initial active transportation framing was key to garnering Council support. Several members of the Town Council noted the lane closure as an opportunity to take notes and to pilot the proposed road diet on West Franklin Street. The intervention was initially framed as a “protected multimodal path” by economic development staff in describing the new pedestrian space in the initial Council meeting, with eventual wording shifting to the phrase “walkway” in later materials (*June 3rd 2020 Town Council Meeting*, 2020).

Public Discussions Around Intervention’s Future

Town staff re-engaged with NCDOT in discussions around the initial plans for the repaving and lane reallocation on West Franklin Street in December 2020, in partnership with the neighboring Town of Carrboro. However, an issue with water infrastructure was discovered in Carrboro that would delay the repaving on their portion of the road, and the Town of Chapel Hill decided to delay the repaving to the spring of 2022 in order to have a coordinated approach to the planned lane reallocation (staff knowledge).

The discussion around the future of the intervention has focused on keeping the walkway in place for at least the next year and improving its appearance for visitors. In a March 31, 2021 meeting, the Chapel Hill Town Council discussed its budget priorities for fiscal year 2022, with councilmember Karen Stegman asking Town Manager Maurice Jones to make the walkway a budget priority. Jones responded that the town had received positive feedback, and intended to keep the walkway “for a while.” No definite timeline has been established for making a final decision.

Brookline, Massachusetts: Sidewalk Extensions

Background

The Town of Brookline, Massachusetts – a western suburb of Boston, Massachusetts with a population of 59,180 – adopted a strategy of extending sidewalks by reallocating travel lanes on four streets, with a strong focus on supporting essential trips.

Brookline has a town-meeting form of government, where the legislature is an annual meeting of citizens and the executive branch is run by the five elected representatives on the town’s Select Board, with a town administrator running the day-to-day operations of the executive branch. Another key feature is the Brookline Transportation Board, which has some decision-making authority on parking, streets and sidewalks. The six members of the Transportation Board are appointed by the Select Board on three-year terms (Town of Brookline, 2020).

Lane Reallocation Overview

The sidewalk extensions in Brookline vary in their implementation, but generally take either a parking lane for pedestrians or remove a travel lane and move parking further from the curb, with the space by the curb reserved for pedestrians. Pedestrian space is delineated with cones and signs on most sidewalk extensions, while Brookline used grant funding to improve the Pleasant Street sidewalk extension with metal Saris wave delineators (Lawrence and Lillian Solomon Foundation, 2020). Brookline implemented four sidewalk extensions in April 2020, and four additional extensions – including one improvement – in June 2020 for a total of seven sidewalk extensions in the town.

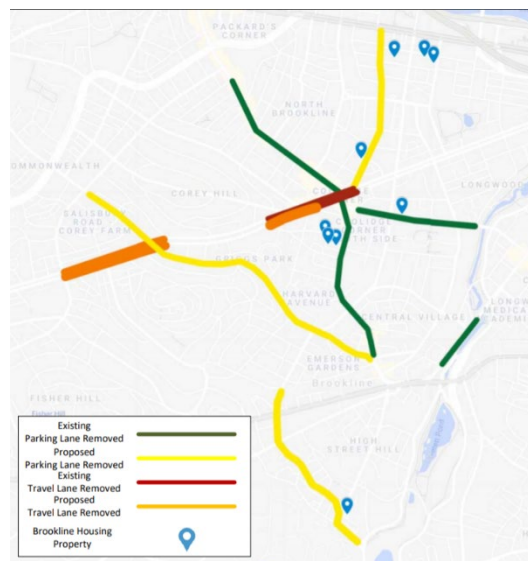


Figure 6: Map of all proposed sidewalk extensions (Brookline Public Works, 2020)

Decision-Making and Intervention Timeline

Public efforts for sidewalk extensions began at the March 31 Select Board meeting – Brookline’s main elected board – with both public comments requesting a sidewalk extension and a request from the Select Board to look into potential road or lane closures to create wider pathways for pedestrians (Select Board, 2020). The subject came up during the following April 7th meeting, as the appointed officials of the Transportation Board requested that the elected officials of the Select Board decide on which strategies they would like to pursue before making any decisions or using the Transportation Board’s regulatory powers. The options presented were:

- Strategy 1: Sidewalk extensions for four corridors identified for essential trips;
- Strategy 2: Lane closures for streets around five neighborhood parks, and;
- Strategy 3: A local traffic only approach to residential side streets.

The Select Board debated the issue for around 50 minutes, with staff input from Transportation Administrator Todd Kirrane and Dr. Swannie Jett, health commissioner for Brookline Health and Human Services. In a 3-2 vote, the Select Board issued an advisory opinion to the Transportation Board endorsing Strategy 1, and a 5-0 vote discouraging strategies 2 and 3 (Select Board, 2020). The following day, the Transportation Board voted 5-0 to proceed with implementation on the four corridors of Beacon Street, Brookline Avenue, Harvard Street, and Longwood Street for a period of 60 days. The expanded sidewalks were implemented by staff on April 9th, the next day (Brookline Transportation Board, 2020). On April 14th, the Select Board held a short conversation on whether to revisit the recommendation around Strategy 1, given the short timeline that the Select Board had to review materials before its April 7th meeting. Board members voted 3-2 to stand by the recommendation and not open it up to further discussion (4.14.2020 Select Board, 2020).

On June 15, the Transportation Board opted to renew the sidewalk extensions and expand them to include three additional corridors in a unanimous vote (Brookline Transportation Board, 2020).

Framing of the Intervention

The initial lane reallocations were framed only around essential trips, while expansions of the program were more geared towards supporting business activity and recreation.

The intervention was mainly framed by supporters as for essential travel and essential travel alone. Those in support of the expanded space noted the existing foot traffic led to issues with social distancing and the need for those without cars to fulfill essential tasks.

The timing of the initial conversation played a major role in the discussion as well – the April vote came amid the initial wave and a Stay-at-Home order from the State of Massachusetts. Dr. Jett initially expressed his disapproval of all three strategies to the Select Board, stating that “We shouldn’t be having a conversation centered around expanding any type of public way at this point, because there shouldn’t be anybody on the street.” Two Select Board members agreed with this position, with both expressing strong concern that people would use the expanded sidewalk space for recreation and requesting signage that explicitly states that space is only for essential trips (Brookline Select Board, 2020).

The messaging around recreation and outdoor activity was initially mixed. While some Select Board members framed the expanded space as helping people get to parks and other passive recreation, both supporters and opponents were clear about the expanded space not being aimed at joggers or recreational cyclists. One Transportation Board member noted her concern that the expanded space was being supported by Boston-area bike groups, and staff deployed message boards to reinforce the message that the space was aimed at essential trips (Brookline Transportation Board, 2020).

This framing faded in later conversations around expanding the sidewalk extensions and turning to a slow streets approach, with conversations turning towards support for local businesses and ensuring that any measures taken put commercial corridors first and did not harm business parking. Opposition mostly faded out, with staff emphasizing the desire to encourage travel by foot and bike while remaining safe.

Public Discussions Around the Future of the Intervention

All seven sidewalk extensions remain in place as of April 1, 2021. The town’s transportation staff applied for and received grants from the Lawrence and Lillian Solomon Foundation and the Massachusetts Department of Transportation to improve the expanded sidewalks by adding physical separation between pedestrians and traffic. In September, Brookline installed wave delineators on one of the routes to create a clearer space and address the issues with cones being moved (The Lawrence and Lillian Solomon Foundation, 2020).

D.C.'s city government has a mayor-council system, with Mayor Muriel Bowser in charge of the city's executive branch, a city administrator in charge of day-to-day operations, and the Council of D.C. serving as the legislative branch for the city. The district also has some structures equivalent to a state, including a judicial branch and full control of its roads under the District Department of Transportation, also known as DDOT (Office of the City Administrator, 2021).

Intervention Overview

D.C.'s sidewalk extensions are intended to create space for pedestrians by essential services by placing barriers at the edge of the parking lane – usually concrete jersey barriers – and designating the space for those on foot. The sidewalk extensions stretch for roughly half a block to two blocks around essential services and stores. Overall, DDOT implemented sidewalk extensions in 10 locations across the district, with all in close proximity to a grocery store (*Sidewalk Extension Plan to Support Social Distancing Near Essential Businesses*, 2020).



Figure 8: Sidewalk extension on Georgia Avenue in Washington, D.C. (Pascale, 2020)

Decision-Making and Intervention Timeline

Like other cities, the COVID pandemic forced shutdowns and a stay-at-home order in Washington D.C., with the city's stay-at-home order coming into effect on April 1, 2020. With the onset of COVID, bike and pedestrian groups pressured the city to take actions to improve the walking and biking experience in D.C. A March 23 letter to Mayor Muriel Bowser and the D.C. Council was the first clear sign of public demand for wider sidewalks, with citizens calling for closing select streets to vehicle traffic, opening street parallel to trails, and adding temporary protected bike lanes on key routes. The letter states that "even 6-8 ft. sidewalks do not allow enough space to pass safely. People who want to get enough space have to step into an active roadway." (Pascale, 2020)

D.C.'s Pedestrian Advisory Council also offered its support for increased space in an April 7th letter, calling for the city to "open all or parts of streets, alleys, and other available spaces to people walking or wheeling."

The idea of "Open Streets" encountered pushback from Mayor Bowser, who noted her concerns about creating a "festival" atmosphere when asked about the idea. While Bowser expressed skepticism around the slow streets approach, she did not comment on the other approaches supported by community advocates (Pascale, 2020).

While the official discussion around pandemic interventions continued, the tactical urbanist organization the DC Department of Transformation (not affiliated with the city) used cones and other various materials, such as wooden pallets, to create “pandemic protected sidewalks” that blocked off parking spaces to create space for pedestrians. The first one was put into place on April 1, and the organization claimed that residents had widened sidewalks on nine streets by April 12th (@DCDOTRA, 2020).

On Monday, April 20th, Mayor Bowser announced a plan to “temporarily extend sidewalks near grocery stores and other essential retailers to allow pedestrians enough space to practice social distancing.” The announcement did not name specific locations, but established a process for business improvement districts and advisory neighborhood commissioners to submit streets to be evaluated by DDOT. The release also noted that the city planned to install sidewalk extensions in all eight wards (Office of Mayor Bowser, 2020). DDOT announced the first five sidewalk extensions on April 22, and began installation in these locations on April 23rd, installing extensions with concrete and water filled barriers (DDOT, 2020).

“While staying at home is a crucial part of flattening the curve during the COVID-19 pandemic, we do recognize residents need to make trips to essential businesses like grocery stores, and sometimes existing sidewalk space makes social distancing a challenge. This tactic will allow for better social distancing as we all work together to flatten the curve.”

- Mayor Muriel Bowser
(Office of Mayor Bowser, 2020)

The sidewalk extension approach was reinforced by the ReOpen DC report, which made its recommendations to Mayor Bowser on May 21. Included in those recommendations were proposals to expand sidewalks, bike lanes, and public transit services “to accommodate increased travel for reopened activities.” The report noted general support among engaged stakeholders, and included a proposal for D.C. to reallocate travel lanes on bridges as well to support pedestrian and bike travel (ReOpen DC, 2020).

Framing of the Intervention

The intervention in Washington D.C. was explicitly framed around grocery stores and essential services, with the sidewalk extensions being the first step towards COVID-related street space reallocation by the D.C. government. As further street space reallocation measures like Slow Streets and Streeteries emerged, the visibility of the sidewalk extension program faded.

As the first COVID-related street intervention, the expanded sidewalks came amid early concerns about accidentally encouraging social congregation and increased crowding. The intervention was intended to be limited for the space around key essential businesses, and did not take a corridor approach to expanding space for pedestrians. Sidewalk extensions did not stretch beyond two blocks in any implementation location.

Public Discussions Around the Future of the Intervention

After initial implementation, advocates pushed DDOT and the mayor to expand the program and to adopt the Slow Streets approach on residential streets. Councilmembers Charles Allen, Brianne Nadeau, and Mary Cheh sent a joint letter to Mayor Bowser on May 15th, calling on DDOT to “identify public space – streets or whole corridors – that could be appropriately closed or narrowed to provide the requisite space for social distancing.” (Allen, 2020)

In June, advocacy efforts from councilmembers translated into legislation, as the trio sponsored the Connected Transportation Network Emergency Act of 2020. The bill required DDOT to implement at least 30 miles of sidewalk expansions, protected bike lanes, or slow streets throughout the city. An amendment was made by Councilman Trayon White to prevent any implementation in his ward, Ward 8, due to concerns about gentrification in the area. The bill passed unanimously on June 9 (D.C. Council, 2020).

According to city staff, the sidewalk extensions have received a mixed reaction, and some have already been removed. Given the executive implementation, removal of the sidewalk extensions falls under DDOT’s jurisdiction without much public feedback. Two sidewalk expansions have already been removed amid parking complaints and low usage, according to interim DDOT director Everett Lott (Committee on Transportation and the Environment, 2021). Extensions have also been temporarily removed for street cleaning efforts, but put back in place (@ezracycle, 2020). The areas selected for sidewalk expansion are not included on any bike or pedestrian plans for the city.

Much of the conversation in Washington D.C. has centered around the Slow Streets program and the Streeteries program – opening parking spaces for restaurants to set up outdoor dining – both implemented in June 2020, but conversations around their future have not included the sidewalk extensions. The Slow Streets program will end at the end of May, and DDOT will look to use the experience to inform future projects. Lott noted that “both supporters and critics of the Slow Streets program have noted that they like the program as envisioned, but that vision is often disparate from the reality.” The Streeteries program received a positive response from businesses, according to Lott, and may continue beyond the pandemic (Committee on Transportation and the Environment, 2021).

Burlington, Vermont: Pine Street Bike Lane

Background

Burlington, Vermont created expanded space on the commercial Pine Street for pedestrians and cyclists alongside a slow streets program, placing an emphasis on recreation early in the pandemic. While billed as making space for both cyclists and pedestrians, the expanded space on Pine Street was solely a bike lane, and has since been removed.

The city has a mayor-council form of government, with the mayor in charge of the executive branch and a 12-person council making legislative decisions. Mayor Miro Weinberger is a full-time employee, with day-to-day control of city operations (City of Burlington, 2021).

Intervention Overview

Prior to the onset of the pandemic, a large portion of the Burlington Bike Path, a greenway running parallel to Lake Champlain, was closed for reconstruction, with a detour routed onto Pine Street, which runs in a similar north-south alignment and has a bike lane on the southbound side of the street and a sharrow on the northbound side of the street. Work began and the trail closed to the public in August 2019 (Burlington Parks, 2021).

The lane reallocation in Burlington restricted parking on the northbound side of the street for a .9 mile stretch between the downtown Maple Street and Lakeside Street, which connected back to the bike path.

Timeline and Decision-Making Process

The process in Burlington happened relatively quickly and early in the pandemic, with the city implementing different street reallocation strategies in tandem and with little public engagement.

On April 2nd, Mayor Weinberger announced in his daily COVID briefing that the city would implement a “Shared Streets for Social Distancing” initiative, with the initial projects including the creation of a network of streets in the Old North End neighborhood designated for local traffic only, streets designated as “Shared Streets,” and the lane reallocation, mirroring existing bike infrastructure on the west side of the road (Mayor Weinberger & Burlington COVID-19 Response Team Update, 2020). On April 4th, Mayor Weinberger officially signed an emergency regulation to implement these changes and to allow the Director of Public Works to make further changes, with the changes expiring with the Emergency Declaration around COVID (Office of Mayor Miro Weinberger, 2020).

The parking lane closure was implemented the weekend of April 4, 2020, with parking restrictions put in place via signage. The bike lane



Figure 9: A rider travels on the temporary bike lane on Pine Street in Burlington, Vermont (Local Motion, 2020)

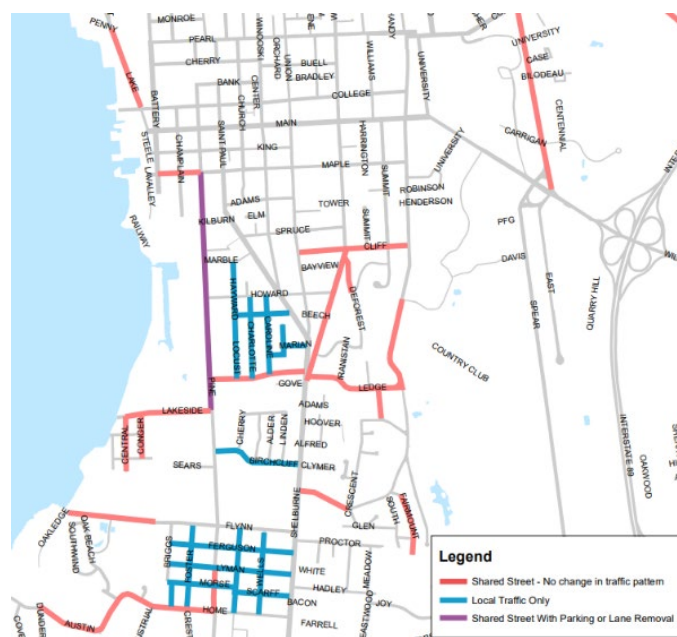


Figure 10: Map of Shared Streets measures in the Downtown, Old North End, and South End neighborhoods (Burlington Public Works, 2020)

remained unmarked until June, when volunteers from Local Motion – a Vermont cycling advocacy organization – placed cones between the traffic lane and the temporary bike lane to delineate it. Cones were also added to the buffer on the existing bike lane on North Avenue in June, as the street was designated as a Shared Street (Local Motion, 2020).

On April 9th, Mayor Weinberger announced the expansion of the Shared Streets program to include several additional roads in the New North End neighborhood, but did not include any additional lane or parking closures (*Update #24: Next steps for “Shared Streets for Social Distancing*, 2020). With the increased changes, the Shared Streets network covered 25% of the street network in Burlington, while the parking closure remained at .9 miles.

On November 4, 2020, the bike lane was removed from Pine Street, while all other facilities were kept in place. The bike lane removal was announced by the Burlington Parks Department as part of completing construction on the Burlington Bike Path (@btvparks, 2020). The Bike Path reopened to the public on December 8th, 2020 (Burlington Parks, 2021).

Framing of the Intervention

The framing of Burlington’s intervention was strongly focused on recreation and cycling, with some mention of essential services added on.

When discussing the Shared Streets program, city officials consistently touched on recreation and giving people space to be distanced while enjoying the outdoors. City officials emphasized the benefits of getting outside throughout the COVID pandemic, even while discouraging social gatherings, and the parks staff specifically noted that walking, biking, and jogging were still allowed. The Shared Streets Program was framed as “a way to give everyone more space to get outside” by Mayor Weinberger (*Update #24: Next steps for “Shared Streets for Social Distancing*, 2020).

“[Parking restrictions] are a pretty minor part of this, and pretty much confined to Pine Street, where there are some temporary parking restrictions to allow that bike lane to go in there ...”

- Mayor Miro Weinberger,
March 9th COVID Briefing

The wording around the Pine Street bike lane noted that the city did not expect the changes on Pine to be permanent, and associated them with the path closure more than the impacts of COVID. In the April 9 briefing, Mayor Weinberger was careful to note that he did not expect any lane or parking closures in Burlington beyond Pine Street.

Public Discussion

The implementation of parking restrictions was not a legislative action, and was not subject to any feedback process. The restrictions did not lead to any questions during Mayor Weinberger’s briefings or during City Council meetings. While the temporary bike lane received some praise from cycling advocates on social media, it did not generate a large amount of attention in comparison to the overall Shared Streets Initiative. Burlington’s bike and pedestrian plan does not include any future accommodations on the east side of Pine Street. This appears to be a case of a temporary project emerging and receding as planned, with no extensions into the future.

Analysis and Discussion

Examining these examples of lane reallocations during COVID, it is clear that these communities reached their intervention through different rationales, different considerations around the COVID pandemic, and with different end goals for the lane reallocation in mind.

Table 2 includes a comparison of the communities across the different dimensions in the analysis, as well as information about any public staff assessments and discussions of continuing the lane reallocation.

The results show how the communities in this paper had varying motives and measures of success for a similar type of intervention during the COVID pandemic, and that feedback around these interventions has been portrayed as mostly positive.

Community	Recreation	Essential Trips and Retail	Other Economic Activity	Concerns Over Increased COVID Spread	Staff Assessment of Intervention	Discussions of Continued Lane Reallocation
Chapel Hill	Light emphasis	No emphasis	Strong emphasis	None	Positive impact	Yes
Brookline	No emphasis	Strong emphasis	No emphasis	Strong	Positive impact	No
Washington D.C.	No emphasis	Strong emphasis	No emphasis	Light	Mixed reactions	No
Burlington	Strong emphasis	Light emphasis	No emphasis	None	Positive impact	No

Table 2: Comparison of Case Study Communities

The varying levels of caution over encouraging non-essential trips and increasing COVID spread is a finding that stands out when comparing communities. On one end of the spectrum, the discussions in Brookline were contentious and heavily centered around the potential of increased spread and the desire for all residents to stay at home as much as possible. On the other end, Burlington actively encouraged residents to get outside for recreation and to use trails and other recreation facilities, with some concerns about spreading residents out among different trails.

The differing messages highlight the uncertainties in the early stage of the pandemic, and the balancing act of reducing viral spread and meeting community needs.

One area of common ground is the mostly positive reaction in these communities, and how organizations took a level of ownership and support for the lane reallocation. In Chapel Hill, the public petition gave the lane reallocation strong support to begin and the support of the Chapel Hill Downtown Partnership created a level of ownership. In Burlington, the cycling advocacy group Local Motion took on a level of ownership by taking a tactical urbanist approach to improve the lane reallocation. In Brookline, the town's transportation division took a strong internal advocacy role for the lane reallocation and pushed for the expansion of the strategy once they secured support. Meanwhile, Washington D.C. had mixed reactions to the sidewalk extensions, but did not have as much of a vocal advocate. While tactical urbanist organization D.C. Department of Transformation advocated for lane reallocations in the beginning, the sidewalk extensions did not occur in the same way or in the locations identified by the organization, and the group did not discuss the extensions after implementation. This level of ownership could be a key part in understanding their success.

One aspect that stands out is that lack of communities looking to keep these interventions in place. While it may be too early to fully make decisions around the post-pandemic period, the lack of discussions around the subject and the removal of Burlington's temporary bike lane offers early evidence that these lane reallocations may not leave a lasting impact on how these streets are used.

A commonality not included in the criteria is the speed of the decision-making process in each of the case study communities. In two communities, the lane reallocations were created by executive action without resident input, and for the other two communities, the lane reallocations were approved less than two weeks after the idea emerged in front of elected officials. The lack of engagement could play a vital role in thinking about how these municipalities move forward after the pandemic, and what type of public input process may come in reversing these lane reallocations. Burlington provides an early example, where the lane reallocation has already ended.

This analysis is limited by several factors, including timing, availability of documents, and visibility of public feedback and support. On timing, this analysis was conducted throughout the spring of 2021 – still in the midst of the COVID pandemic. While this paper captures some early conversations, future analysis will be needed to see how these lane reallocations are removed or kept in place in the post-COVID context.

The analysis is also limited on the use of public documents and social media for information for most of the case studies. The analysis of the Chapel Hill case study is supported by internal staff documents, but the other case studies are limited to discussions and sentiments held in public, which may skew the analysis towards a more positive and polished view. Deeper analysis could include interviews and public records requests to gain more information on internal conversations and disagreements that did not reach public discussions. This is especially true for

Burlington and Washington D.C., which announced their lane reallocations in executive actions without deliberation or votes.

This analysis is limited in scope to these four cities, and does not represent a full or representative view of how cities implemented lane reallocations during COVID. Further analysis of other case studies is needed to gain a fuller picture of the implementation and feedback of lane reallocations during COVID.

Looking forward, decisionmakers will need to decide if and when these lane reallocations are removed, and the public feedback process needed if these temporary measures are to become permanent. These case studies are not a representative sample of all interventions, but hint that bike/ped related lane reallocations in the U.S. may not be able to stay in place after the pandemic ends. Further research will be needed on how cities decommission their COVID-related interventions and how these temporary programs set the stage for future discussions around street space and active transportation.

Conclusion

The COVID pandemic caused a major shift in Americans' lives, with one of those shifts being an increase in active mobility activities like walking, running, and cycling. In response to the pandemic, cities across the world implemented changes in their transportation systems, with many aimed at active mobility modes. Across a range of options, some cities implemented lane reallocations to increase the space for those walking and cycling, often in a quick manner. Previous research shows that lane reallocations in normal times can have benefits for economic activity and increasing active transportation, but these lane reallocations must advance through varied political environments and contexts. The pandemic's negative effects on public transit also play a role in how these lane reallocations may perform, as users often choose between transit and active transportation.

The four case studies analyzed in this paper all implemented lane reallocation strategies in response to COVID in commercial corridors in American cities, but vary in their demographics and their decision-making structures. This paper looks at these case studies over several common dimensions, using primarily public meetings, public records, and social media to capture the events surrounding the approval and implementation of the lane reallocations.

Using these records, we find that communities varied in their rationales for implementing a lane reallocation and varied in the processes used to make decisions on lane reallocations. Communities also differed on how they approached lane reallocations, with some allocating space for pedestrians and some allocating space for cyclists.

However, commonalities emerged among communities in the mostly positive feedback surrounding the lane reallocations – associated with an organization taking a level of ownership – and the lack of discussions about making the lane reallocation permanent after COVID. Future analysis will need to be conducted to see how these decisions are made by these jurisdictions.

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